

Application No.: 09/801,405
Amendment dated November 12, 2003
Reply to Office Action of August 28, 2003

REMARKS/ARGUMENTS

Status Of Application

Claims 1-3, 5-10, 12-28, 30, and 32 were pending in the application. By this Amendment, claim 5 is cancelled. Therefore, claims 1-3, 6-10, 12-28, 30, and 32 are pending in the application; the status of the claims is as follows:

Claims 6, 12-27, and 32 are allowed.

Claims 1-3, 9, 10, 28, and 30 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,711,512 to Upatnieks (“Upatnieks”) in view of U.S. Patent No. 5,886,822 to Spitzer (“Spitzer”).

Claims 7 and 8 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Upatnieks in view of Spitzer and further in view of U.S. Patent No. 6,049,429 to Iizuka et al (“Iizuka”).

Claim Amendments

Claim 8 has been amended to improve the form thereof. Claims 1 and 28 have been amended to incorporate the limitations of former claim 5. These changes do not introduce any new matter.

35 U.S.C. § 103(a) Rejections

The rejection of claims 1-3, 9, 10, 28, and 30 under 35 U.S.C. § 103(a), as being unpatentable over Upatnieks in view of Spitzer, is respectfully traversed based on the following.

Amended claim 1 includes the limitation “wherein the hologram has a diffractive reflection angle wider than a regular reflection angle observed on the hologram surface.”

Fig. 2 of the present application illustrates this limitation in which incident and reflected light rays have an angle of α when the reflecting surface 104 is a regular reflection surface, such as a silvered mirror. However, when the reflecting surface is a hologram, the reflection angle can be wider than the normal reflection angle, e.g., angle β in Fig. 2 of the present application.

In contrast to this wider than normal angle reflection limitation, Upatnieks discloses a smaller than normal angle reflection. As is clearly illustrated in each of the figures in Upatnieks, the light rays are reflected or transmitted, as the case may be, at an angle smaller than would occur at a normal reflecting surface. For example, Fig. 3 of Upatnieks shows the use of an output reflecting grating 302. The light rays are incident at an angle of approximately 45°, while the reflected light rays leave the output reflecting grating at an angle of approximately 0°. Clearly, 0° is smaller than the normal reflection angle of approximately 45°. Similarly, when an output transmissive grating 406 is used, such as that illustrated in Fig. 4 of Upatnieks, the angle is again smaller than the normal reflection angle. Fig. 4 shows the light ray incident angle to be approximately 55°, while the exit angle is again approximately 0°. Thus, in either embodiment of Upatnieks, the hologram element creates a reflection angle that is smaller, not wider, than the normal reflection angle. Thus, Upatnieks fails to disclose a hologram in the specified configuration, i.e., one in which the image light beam “is reflected between the two reflecting surfaces arranged facing each other, and is diffractively reflected on the hologram surface, and then, after being transmitted through the light-beam-selective surface,” with the specified properties, i.e., a hologram that “has a diffractive reflection angle wider than a regular reflection angle.” Because Upatnieks fails to disclose a hologram having the configuration and reflection properties found in claim 1, Upatnieks cannot anticipate or render obvious the device of claim 1.

Further, Spitzer likewise fails to disclose a device having a hologram with the limitations of claim 1 with respect to configuration and reflection properties. Figs. 16A and 16B of Spitzer show a method of making the device thinner by canting interfaces 324,

325, and reflecting the light via internal reflection. Column 11, lines 29-37 of Spitzer describes this thinner embodiment. At no time does Spitzer disclose or suggest that interface 324 is a hologram that “has a reflection angle wider than a regular reflection angle” as found in claim 1. Because Spitzer fails to disclose or suggest a hologram having the configuration and reflection properties found in claim 1, Spitzer cannot anticipate or render obvious the device of claim 1. In addition, the combination of Upatnieks and Spitzer similarly fails to disclose or suggest a hologram having the configuration and reflection properties found in claim 1. Therefore, the combination of Upatnieks and Spitzer cannot render obvious the device of claim 1.

Claims 2, 3, 9, and 10 depend from claim 1. As claim 1 is considered non-obvious in view of Upatnieks and Spitzer, claims 2, 3, 9, and 10 are likewise considered non-obvious for at least the same reasons.

Amended claim 28 includes similar limitations regarding the hologram’s configuration and reflection properties. These hologram configuration and reflection properties are not disclosed or suggested by the combination of Upatnieks and Spitzer. Therefore, the combination of Upatnieks and Spitzer cannot render obvious the element of claim 28.

Claim 30 depends from claim 28. As claim 28 is considered non-obvious in view of Upatnieks and Spitzer, claim 30 is likewise considered non-obvious for at least the same reasons.

Accordingly, it is respectfully requested that the rejection of claims 1-3, 9, 10, 28, and 30 under 35 U.S.C. § 103(a) as being unpatentable over Upatnieks in view of Spitzer, be reconsidered and withdrawn.

The rejection of claims 7 and 8 under 35 U.S.C. § 103(a), as being unpatentable over Upatnieks in view of Spitzer and further in view of Iizuka, is respectfully traversed based on the following.

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Iizuka fails to disclose or suggest a hologram having the configuration and reflection properties as found in claim 1. In particular, Iizuka does not disclose a hologram having “a diffractive reflection angle wider than a regular reflection angle.” Thus, the combination of Upatnieks, Spitzer, and Iizuka fails to disclose or suggest every limitation of claim 1, and therefore cannot render obvious the device of claim 1.

Claims 7 and 8 depend from claim 1. As claim 1 is considered non-obvious in view of the combination of Upatnieks, Spitzer, and Iizuka, claims 7 and 8 are likewise considered non-obvious over the combination of Upatnieks, Spitzer, and Iizuka for at least the same reasons.

Accordingly, it is respectfully requested that the rejection of claims 7 and 8 under 35 U.S.C. § 103(a) as being unpatentable over Upatnieks in view of Spitzer and further in view of Iizuka, be reconsidered and withdrawn.

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CONCLUSION

Wherefore, in view of the foregoing amendments and remarks, this application is considered to be in condition for allowance, and an early reconsideration and a Notice of Allowance are earnestly solicited.

This Amendment does not increase the number of independent claims, does not increase the total number of claims, and does not present any multiple dependency claims. Accordingly, no fee based on the number or type of claims is currently due. However, if a fee, other than the issue fee, is due, please charge this fee to Sidley Austin Brown & Wood LLP's Deposit Account No. 18-1260.

Any fee required by this document other than the issue fee, and not submitted herewith should be charged to Sidley Austin Brown & Wood LLP's Deposit Account No. 18-1260. Any refund should be credited to the same account.

If an extension of time is required to enable this document to be timely filed and there is no separate Petition for Extension of Time filed herewith, this document is to be construed as also constituting a Petition for Extension of Time Under 37 C.F.R. § 1.136(a) for a period of time sufficient to enable this document to be timely filed.

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Any other fee required for such Petition for Extension of Time and any other fee required by this document pursuant to 37 C.F.R. §§ 1.16 and 1.17, other than the issue fee, and not submitted herewith should be charged to Sidley Austin Brown & Wood LLP's Deposit Account No. 18-1260. Any refund should be credited to the same account.

Respectfully submitted,

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